

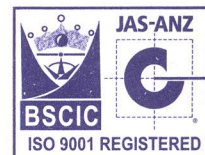


CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No.: CTCE/BBMP/KVSR/W.No.10/WMM/Gradation/2016-17

16.02.2017

TEST REPORT ON GRADATION OF WET MIX MACADAM

* Customer	: Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: Mr. K.V. Subba Reddy, Contractor, Bangalore.
* Name of Work	: Filling of pot holes in Ward No.10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	: BBMP/EE/BTP/WO/175/2016-17 Dated: 10.02.2017
Sample ID	: Wet Mix Macadam
Technical Reference	: IS 2386 (part-1)1963 (RA-2016)
Date of Testing	: 16.02.2017



Oven Dry Wt (gm): 5000

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits As per Morth Table 400-11
53	0	0	0	100	100
45	145	145	2.9	97.1	95-100
22.4	1585	1730	34.60	65.40	60-80
11.2	1025	2755	55.10	44.90	40-60
4.75	565	3320	66.40	33.60	25-40
2.36	485	3805	76.10	23.90	15-30
0.600	495	4300	86.00	14.00	8-22
0.075	605	4905	98.10	1.90	0-8

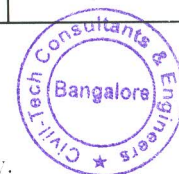
*Information is furnished by the Customer/Representative.

Note:

- ⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.
- ⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.
- ⇒Any Query regarding the report must be reported within 30 days from the date of testing.

Signature
AE

Signature
AE-10/10/17



Civil-tech Consultants & Engineers
#23/14, 7th Cross, 3rd Stage, 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.

Tele Fax : 23223227, Website : www.civiltechconsultants.com

E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com



CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No.: CTCE/BBMP/KVSR/W.No.10/WMM/Gradation/2016-17

17.02.2017

TEST REPORT ON GRADATION OF WET MIX MACADAM

* Customer	: Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: Mr. K.V. Subba Reddy, Contractor, Bangalore.
* Name of Work	: Filling of pot holes in Ward No.10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	: BBMP/EE/BTP/WO/175/2016-17 Dated: 10.02.2017
Sample ID	: <u>Wet Mix Macadam</u>
Technical Reference	: IS 2386 (part-1)1963 (RA-2016)
Date of Testing	: 17.02.2017



Oven Dry Wt (gm): 5000

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits As per Morth Table 400-11
53	0	0	0	100	100
45	185	185	3.7	96.3	95-100
22.4	1560	1745	34.90	65.10	60-80
11.2	1030	2775	55.50	44.50	40-60
4.75	580	3355	67.10	32.90	25-40
2.36	490	3845	76.90	23.10	15-30
0.600	480	4325	86.50	13.50	8-22
0.075	625	4950	99.00	1.00	0-8

*Information is furnished by the Customer/Representative.

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

Subba
AE

Civil-tech Consultants & Engineers
#23/14, 7th Cross, 3rd Stage, 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.

Tele Fax : 23223227, Website : www.civiltechconsultants.com

E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com



CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No.: CTCE/BBMP/KVSR/W.No.10/WMM/AIV/2016-17

16.02.2017

TEST REPORT ON IMPACT VALUE OF AGGREGATE

* Customer	: Asst. Executive Engineer, Vidyananyapura Sub Division, BBMP, Bangalore.
* Agency	: Mr. K.V. Subba Reddy, Contractor, Bangalore.
* Name of Work	: Filling of pot holes in Ward No.10 (Doddabommasandra), Vidyananyapura Sub Division, BBMP, Bangalore.
* Reference	: BBMP/EE/BTP/WO/175/2016-17 Dated: 10.02.2017
* Sample ID	: Wet Mix Macadam
Technical Reference	: IS: 2386 Part IV
Date of Testing	: 16.02.2017



Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	375	378	20.05
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	75	76	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	300	302	
4	Aggregate Impact value = percent fines $100 * (W_2/W_1) \%$	20.00	20.11	

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Aggregate Impact value for Wet Mix Macadam is 30%

Note:

⇒ The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒ The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

Zeelha
AE

Civil-tech Consultants & Engineers
#23/14, 7th Cross, 3rd Stage, 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079

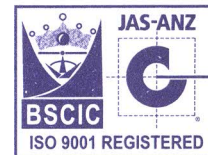


CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No.: CTCE/BBMP/KVSR/W.No.10/WMM/Shape.T/2016-17

16.02.2017

TEST REPORT ON FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

* Customer	: Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: Mr. K.V. Subba Reddy, Contractor, Bangalore.
* Name of Work	: Filling of pot holes in Ward No.10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	: BBMP/EE/BTP/WO/175/2016-17 Dated: 10.02.2017
* Sample ID	: Wet Mix Macadam
Technical Reference	: IS 2386(Part 1) 1963 (RA 2016)
Date of Testing	: 16.02.2017



Sl.No.	Description	Result
1	Flakiness Index	11.38%
2	Elongation Index	13.60%
3	Combined Flakiness & Elongation Index	24.98%

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

Subba
AE

Civil-tech Consultants & Engineers

#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079



CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No.: CTCE/BBMP/KVSR/W.No.10/BC/AIV/2016-17

14.03.2017

TEST REPORT ON IMPACT VALUE OF AGGREGATES

* Customer	: Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: Mr. K.V. Subba Reddy, Contractor, Bangalore.
* Name of Work	: Filling of pot holes in Ward No.10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	: BBMP/EE/BTP/WO/175/2016-17 Dated: 10.02.2017
* Sample ID	: Hot mix plant, Bangalore.
* Type of Mix	: Bituminous Concrete
Technical Reference	: IS: 2386 (Part- 4)-1963 (RA-2011)
Date of Testing	: 14.03.2017



Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	388	389	
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	85	86	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	303	303	
4	Aggregate Impact value = percent fines $100 * (W_2/W_1)$ percent	21.91	22.11	22.01

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Aggregate Impact value for Bituminous Concrete is 24%

Note:

⇒ The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒ The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

Zodha
AE

Civil-tech Consultants & Engineers
#23/14, 7th Cross, 3rd Stage, 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

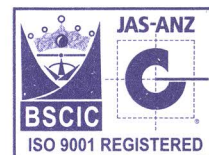


CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No.: CTCE/BBMP/KVSR/W.No.10/BC/Shape.T/2016-17

14.03.2017

TEST REPORT ON FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

* Customer	: Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: Mr. K.V. Subba Reddy, Contractor, Bangalore.
* Name of Work	: Filling of pot holes in Ward No.10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	: BBMP/EE/BTP/WO/175/2016-17 Dated: 10.02.2017
* Sample ID	: Hot mix plant, Bangalore
Technical Reference	: IS : 2386(Part -1)-1963 (RA-2011)
* Type of Mix	: Bituminous Concrete
Date of Testing	: 14.03.2017



Sl.No.	Description	Result
1	Flakiness Index	11.23%
2	Elongation Index	13.65%
3	Combined Flakiness & Elongation Index	24.88%

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Flakiness & Elongation Index for Bituminous Concrete is 30%

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

Signature
AE

Signature
Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd stage 1th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.



CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No.: CTCE/BBMP/KVSR/W.No.10/BC/Stripping/2016-17

14.03.2017

TEST REPORT ON STRIPPING VALUE OF ROAD AGGREGATES (STATIC IMMERSION TEST)

* Customer	: Asst. Executive Engineer, Vidyanarayapura Sub Division, BBMP, Bangalore.
* Agency	: Mr. K.V. Subba Reddy, Contractor, Bangalore.
* Name of Work	: Filling of pot holes in Ward No.10 (Doddabommasandra), Vidyanarayapura Sub Division, BBMP, Bangalore.
* Reference	: BBMP/EE/BTP/WO/175/2016-17 Dated: 10.02.2017
Technical Reference	: IS: 6241
* Type of Mix	: Bituminous Concrete
Date of Testing	: 14.03.2017



Type of binder	: 80/100
Percentage of binder used	: 5.00% by wt.
Total weight of aggregate	: 200 g
Total weight of binder	: 10.00 g
Temperature of water-bath	: 40° C

Observation Number	Stripping, Percentage	Average, Percentage	Average Retained Coating, %
1	3.3	3.40	96.60
2	3.4		
3	3.5		

*Information is furnished by the Customer/Representative.

Comments:

→ Minimum allowable Aggregate retained coating for Bituminous Concrete is 95%

Note:

⇒ The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒ The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

Subba
AE

Civil-tech Consultants & Engineers

#23/14, 7th Cross, 3rd Stage, 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079



CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No.: CTCE/BBMP/KVSR/W.No.10/BC/Sp_Wa/2016-17

14.03.2017

TEST REEPORT ON SPECIFIC GRAVITY AND WATER ABSORPTION

* Customer	: Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: Mr. K.V. Subba Reddy, Contractor, Bangalore.
* Name of Work	: Filling of pot holes in Ward No.10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	: BBMP/EE/BTP/WO/175/2016-17 Dated: 10.02.2017
* Sample ID	: Hot mix plant, Bangalore
Technical Reference	: IS : 2386(Part -3)-1963 (RA-2011)
* Type of Mix	: Bituminous Concrete
Date of Testing	: 14.03.2017



Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	W_1 g	2010	2011	2012	
2	Weight of basket suspended in water	W_2 g	755	755	755	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s$ g	1239	1238	1257	
4	Weight of saturated surface dry aggregate in air	W_3 g	2006	2005	2004	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_s)$ g	767	767	747	
6	Weight of oven dried aggregate	W_4 g	1995	1999	1996	
7	Specific Gravity	$W_4 / (W_3 - W_s)$	2.601	2.606	2.672	2.626
8	Apparent Specific gravity	$W_4 / (W_4 - W_s)$	2.639	2.627	2.701	2.656
9	Water Absorption	$((W_3 - W_4) * 100) / W_4$	0.55%	0.30%	0.40%	0.42%

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Aggregate Water absorption value for Bituminous Concrete is 2.0%

Note:

⇒ The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒ The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒ Any Query regarding the report must be reported within 30 days from the date of testing.



Signature
A.B.

Civil-tech Consultants & Engineers

#23/14, 7th Cross, 3rd Stage, 1th Block,

Shakthi Ganapathi Nagar,

Basaveshwaranagar, Bangalore-79. Bangalore-560 079.

Tele Fax : 23223227, Website : www.civiltechconsultants.com

E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com



CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No: CTCE/BBMP/KVSR/W.No.10/BC/Bitumen/2016-17

14.03.2017

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE

As per IS2386 and IRC:SP:11-1984

* Customer	Asst. Executive Engineer, Vidyanarayapura Sub Division, BBMP, Bangalore.
* Agency	Mr. K.V. Subba Reddy, Contractor, Bangalore.
* Name of Work	Filling of pot holes in Ward No.10 (Doddabommasandra), Vidyanarayapura Sub Division, BBMP, Bangalore.
SAMPLE I/D	Pot hole filling to roads in Ward No.10
DATE OF TESTING	14.03.2017



BITUMEN CONTENT DETERMINATION

Description	Sample 1	Sample 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	470	469
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g	-	-
6. Weight of Bitumen Extracted, g. (corrected)	30	31
7. Bitumen content in %	6.00	6.20
8. Average	6.10	

GRADATION AFTER EXTRACTION

TABLE - 1

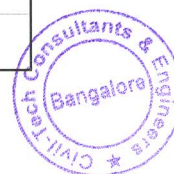
SIEVE SIZE	Percent Passing, %		JOB MIX
mm	Sample 1	Sample 2	Gradation
19	100.00	100.00	100
13.2	85.35	86.36	79-100
9.5	80.23	79.32	70-88
4.75	64.15	66.35	53-71
2.36	46.36	44.25	42-58
1.18	42.25	46.35	34-48
0.6	31.25	28.55	26-38
0.3	25.36	21.26	18-28
0.15	16.23	15.65	12-20
0.075	6.25	6.35	4-10

*Information is furnished by the Customer/Representative.

Note:

- ⇒ This test report should not be reproduced except in full, without written approval of the laboratory
- ⇒ The results indicated above are based on the tests carried out on the samples received in the laboratory
- ⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

Zadha
AE



Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 07

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.

Tele Fax : 23223227, Website : www.civiltechconsultants.com

E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com